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EXAMINER

SHAH, SAMIR M

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| ART UNIT | PAPER NUMBER |
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2856

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05/02/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/537,888

Applicant(s)

BREMER ET AL.

Examiner

Samir M. Shah

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6, 7 and 9-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 7 and 9-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/15/2007 has been entered.

Response to Arguments

1. Applicants' arguments filed 3/15/2007, with respect to the 35 U.S.C. 102(b) rejection of claims 1-7 and 9-12 as being anticipated by Klapman (US Patent 5,723,786 henceforth "Klapman"), have been fully considered but they are not persuasive.

As to claims 1, 4, 9 and 12, it is noted that the intended use of "measurement unit" and "processor" by using the word "operable" does not afford patentable weight. The court Held, In re Pearson, 494 F.2d 1399, 181 USPQ 641 (CCPA 1974); In re Yanush, 477 F.2d 958, 177 USPQ 705 (CCPA 1973); In re Finsterwalder, 436 F.2d 1028, 168 USPQ 530 (CCPA 1971); In re Casey, 370 F.2d 576, 152 USPQ 235 (CCPA 1967)) In re Otto, 312 F.2d 937, 136 USPQ 458 (CCPA 1963); Ex parte Masham, 2 USPQ2d 1647 (BdPatApp & Inter 1987), that the recitation with respect to the manner in which an apparatus is intended to be employed does not impose any structural

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limitation upon the claimed apparatus which differentiates it from a prior art reference disclosing the structural limitations of the claim.

Therefore, since Klapman discloses the structural limitations of claims 1, 4, 9 and 12, the rejection of these claims as being anticipated by Klapman is maintained.

Moreover, as to claim 6, Klapman discloses the processor (24) only transmits data/signals which have changed since the last reading. Therefore, the signals are monitored discontinuously/intermittently by the processor (38) of display (28) (column 3, lines 39-61)

In conclusion, the 35 U.S.C. 102(b) rejection of claims 1-7 and 9-12 as being anticipated by Klapman is maintained.

2. Note, as to newly filed claims 15-18, for the lack of any definition for the term "intermittently", the term [intermittently] is interpreted to mean discontinuously to thereby maintain consistency with the written specification as originally filed.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4, 6, 7 and 9-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Klapman.

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(a) As to claims 1, 2, 4, 9, 10, 12, 18 and 20, Klapman discloses an activity monitor comprising:

a measurement unit/impact measuring device (14) including a plurality of motion sensors/accelerometers (18, 20, 22), operable to produce respective sensor signals indicative of motion experienced thereby (figure 3; column 2, lines 32-45); and

a processor (24) for receiving on an output channel of the measurement unit/impact measuring device (14) the sensor signals from the measurement unit/impact measuring device (14) and operable to process the signals in accordance with a predetermined method (for example, to format the signals for transmission, under either an analog or digital format, to the display (16)) (figures 1-3; column 2, lines 38-41, 46-49; column 3, lines 56-60)

wherein the measurement unit/impact measuring device (14)/processor (24) is operable to operate/sample/monitor the output channel discontinuously/intermittently in time during output of each motion sensor/accelerometer output signal (note, in order to increase battery life of the measurement unit/impact measuring device (14), the processor (24) only transmits data which has changed since the last reading and hence if no data has changed since the last reading, the processor (24) will not transmit any data and hence the output channel will only be operated/sampled discontinuously/intermittently in time) (figures 3, 5; column 3, lines 55-61).

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(b) As to claims 3 and 11, Klapman teaches the motion sensors/accelerometers (18, 20, 22) being arranged to be mutually orthogonal (column 2, lines 32-37).

(c) As to claims 6 and 16, Klapman teaches a method of monitoring activity using a plurality of motion sensors/accelerometers (18, 20, 22) which are operable to produce respective sensor signals indicative of motion experienced thereby (figures 1-3; column 2, lines 32-45), the method comprising the acts of:

monitoring the sensor signals discontinuously/intermittently in time (note, in order to increase battery life of the measurement unit/impact measuring device (14), the processor (24) only transmits data which has changed since the last reading and hence if no data has changed since the last reading, the processor (24) will not transmit any data and hence the output channel will only be operated/sampled discontinuously/intermittently in time); and

processing the sensor signals (figures 1-3; column 1, lines 65-67; column 2, lines 1-25, 38-41, 46-49; column 3, lines 56-60).

(d) As to claims 7 and 19, Klapman teaches providing the sensor signals (from three accelerometers 18, 20, 22) on a single channel, wherein the monitoring act monitors in turn the sensor signals on the single channel (note, in order to increase battery life of the measurement unit/impact measuring device (14), the processor (24) only samples/transmits data which has changed since the last reading) (figures 3, 5; column 2, lines 58-64; column 3, lines 7-15, 39-61).

(e) As to claim 13, Klapman discloses the measurement unit/impact measuring device (14) having a single output channel and being operable to output the sensor signals (from three accelerometers 18, 20, 22) in turn on the output channel (figures 3, 5; column 2, lines 58-64; column 3, lines 7-15, 39-61).

(f) As to claims 14, 15 and 17, Klapman disclose the processing act sampling a single output channel of a measurement unit discontinuously in time (note, in order to increase battery life of the measurement unit/impact measuring device (14), the processor (24) only transmits data which has changed since the last reading and hence if no data has changed since the last reading, the processor (24) will not transmit any data and hence the output channel will only be operated/sampled discontinuously in time), said single output channel including the sensor signals from the plurality of the motion sensors/accelerometers, (18, 20, 22) (figures 3, 5; column 2, lines 58-64; column 3, lines 7-15, 39-61).

5. Claims 1-4, 6 and 9-12, 16, 18 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Depeursinge et al. (US Patent 6,201,476 B1 henceforth "Depeursinge").

(a) As to claims 1-4, 9-12, 18 and 20, Depeursinge discloses an activity monitor/monitoring device (1), comprising:

a measurement unit including (unit (7) and) a plurality of mutually orthogonal motion sensors/accelerometers (2a-2c), operable to produce respective sensor signals indicative of motion experienced thereby (figures 1, 3; column 2, lines 33-67; column 3, lines 1-29); and

a processor (including unit (8), (9)) for receiving on an output channel of the measurement unit ((7), (2a-2c)) the sensor signals from the measurement unit and operable to process the signals in accordance with a predetermined method (figures 1, 3; column 3, lines 30-67; column 4, lines 1-7);

wherein the measurement unit ((7), (2a-2c))/processor ((8), (9)) is operable to operate/sample/monitor the output channel discontinuously/intermittently in time during output of each motion sensor (2a-2c) output signal (column 4, lines 7-11).

(b) As to claims 6 and 16, Depeursinge discloses a method of monitoring activity using a plurality of motion sensors/accelerometers (2a-2c) which are operable to produce respective sensor signals indicative of motion experienced thereby (figures 1, 3; column 2, lines 33-67; column 3, lines 1-29), the method comprising the acts of:

monitoring the sensor signals discontinuously in time (column 4, lines 7-11); and
processing the sensor signals (figures 1-3; column 3, lines 30-67; column 4, lines 1-7).

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6. Claims 1-4, 6 and 9-12, 15, 18 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Randell et al. ("Context Awareness by Analysing Accelerometer Data", Cliff Randell and Henk Muller henceforth "Randell").

(a) As to claims 1-4, 6, 9-12, 15, 16, 18 and 20, Randell discloses an activity monitor, comprising:

a measurement unit including a plurality of mutually orthogonal motion sensors (accelerometer, microphone), operable to produce respective sensor signals indicative of motion experienced thereby (section 2 - Architecture, 2nd paragraph; section 3 - Data Processing, lines 16-19; section 4 - Application - the Well-Behaved Wearable, 4th paragraph); and

a processor for receiving on an output channel of the measurement unit the sensor signals from the measurement unit and operable to process the signals in accordance with a predetermined method (section 2 - Architecture, 2nd paragraph; section 3 - Data Processing, 2nd paragraph);

wherein the measurement unit/processor is operable to operate/sample/monitor the output channel discontinuously/intermittently in time during output of each motion sensor output signal (section 2 - Architecture, 2nd paragraph).

(b) As to claims 6 and 16, Randell discloses a method of monitoring activity using a plurality of motion sensors (accelerometer, microphone) which are operable to produce respective sensor signals indicative of motion experienced thereby (section 2 -

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Architecture, 2nd paragraph; section 3 - Data Processing, lines 16-19; section 4 - Application - the Well-Behaved Wearable, 4th paragraph), the method comprising the acts of:

monitoring the sensor signals discontinuously/intermittently in time (section 2 - Architecture, 2nd paragraph); and

processing the sensor signals (section 2 - Architecture, 2nd paragraph; section 3 - Data Processing, 2nd paragraph).

7. Claims 1, 6, 7, 9, 12-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Choi (US Patent 5,317,304 henceforth "Choi").

(a) As to claims 1, 9, 12, 15, 18 and 20, Choi discloses an activity monitor, comprising:

a measurement unit including a plurality of motion sensors (21, 22)/motion detecting means (22), operable to produce respective sensor signals indicative of motion experienced thereby (figure 5; column 4, lines 39-47); and

a processor/microprocessor (24) for receiving on an output channel of the measurement unit the sensor signals from the measurement unit and operable to process the signals in accordance with a predetermined method (figure 5; column 4, lines 52-68; column 5, lines 1-2);

wherein the measurement unit/processor is operable to operate/sample/monitor the output channel discontinuously/intermittently in time during output of each motion sensor output signal (column 5, lines 3-15; column 6, lines 28-61).

(b) As to claims 6 and 16, Choi discloses a method of monitoring activity using a plurality of motion sensors (21, 22)/motion detecting means (22) which are operable to produce respective sensor signals indicative of motion experienced thereby (figure 5; column 4, lines 39-47), the method comprising the acts of:

monitoring the sensor signals discontinuously/intermittently in time (column 5, lines 3-15; column 6, lines 28-61); and

processing the sensor signals (figure 5; column 4, lines 52-68; column 5, lines 1-2).

(c) As to claims 7 and 19, Choi discloses providing the sensor signals on a single channel, wherein the monitoring act monitors in turn the sensor signals on the single channel (figure 7B; column 5, lines 3-15; column 6, lines 28-63, especially 59-63).

(d) As to claim 13, Choi discloses the measurement unit having a single output channel and being operable to output the sensor signals in turn on the output channel (figure 7B; column 5, lines 3-15; column 6, lines 28-63, especially 59-63).

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(e) As to claims 14, 15 and 17, Choi discloses the processing act sampling a single output channel of a measurement unit discontinuously/intermittently in time, said single output channel including the sensor signals from the plurality of the motion sensors (21, 22)/motion detecting means (22) (figure 7B; column 5, lines 3-15; column 6, lines 28-63, especially 59-63).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 1-4, 6, 9-12, 15, 16, 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Verplaetse et al. (US Patent Application Publication 2003/014660 A1 henceforth "Verplaetse").

As to claims 1-4, 6, 9-12, 15, 16, 18 and 20, Verplaetse discloses an activity monitor and a method of monitoring activity, comprising:

a measurement unit including a "multi-axis MEMS accelerometer" (36) (the axes being mutually orthogonal) operable to produce sensor signals indicative of motion experienced thereby (figure 3; paragraph 0032, lines 1-6); and

a processor (38) for receiving on an output channel of the measurement unit the sensor signals from the measurement unit and operable to process the sensor signals in accordance with a predetermined method (figure 3; paragraph 0032, lines 6-19);

wherein the measurement unit/processor is operable to operate/sample/monitor the output channel discontinuously/intermittently in time during output of each motion sensor output signal (paragraph 0036).

As to claims 1-4, 6, 9-12 and 20, Verplaetse does not expressly disclose a plurality of motion sensors.

However, Verplaetse uses a multi-axis accelerometer (36) which is functional to sense the acceleration in at least two distinct orthogonal axes. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a plurality of motion sensors/accelerometers for sensing the acceleration in at least two distinct axes, as required by Verplaetse, instead of a single multi-axis accelerometer to save money or to provide additional mobility of parts within the device.

Conclusion


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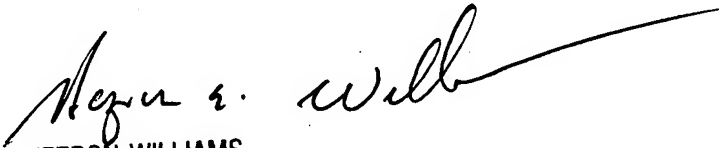
10. The prior art made of record and not relied upon, cited in the attached 892 form, is considered pertinent to applicant's disclosure.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samir M. Shah whose telephone number is (571) 272-2671. The examiner can normally be reached on Monday-Friday 9:30 am to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Samir M. Shah
Art Unit 2856
04/28/2007


HEZRON WILLIAMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800